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AMMONIUM NITRATE -- NEWEST THING IN FERTILIZERS

A transcribed report by Ernie Moore, Agricultural Research Administration, U. S. Department of Agriculture. Recorded November 23, 1945. Time, without announcer's parts, four minutes.

ERNIE MOORE: (TRANSCRIPTION):

The other day I went out to the Plant Industry Station at Beltsville, Maryland, to get a first-hand report on ammonium nitrate. And while I was talking with Dr. Frank Parker -- who heads up research work on fertilizers -- he told me something about nitrogen that I think you'll agree is rather amazing.

We were talking about the sandy soils of North Carolina. I happen to know something about the soils of that State. And what Dr. Parker told me is this: By adding extra nitrogen to the soil -- they increased the yield of corn from 19 bushels an acre to 107 bushels!

Well I know that nitrogen is the most needed fertilizing element for the soils of North Carolina -- but even so it was pretty hard to believe that extra nitrogen could make a difference of 88 bushels an acre.

Then we got to talking about soils in other parts of the country, and how even the best soils can be improved by more nitrogen. In Iowa, for example, in a series of tests with nitrogen, they increased the yield of corn from 40 bushels an acre to 60 bushels.

But that's enough about the need for nitrogen. What I want to report on today is one of the newer forms of nitrogen, known as ammonium nitrate. It was the ill wind of war that brought this material into such widespread use as a fertilizer. During the war ammonium nitrate was used in great quantities, in both the United States and Canada, for making war explosives. Canada had large factories built, so that if the plants in Great Britain were bombed out, there would still be ample supplies of ammonium nitrate.

Well, the plants in Great Britain were not bombed out, and when it became apparent that we were not going to need all this ammonium nitrate for explosives, we started giving more thought to its use as a fertilizer.

But one great difficulty stood in the way. When ammonium nitrate first appeared on the market in quantity, by the time the farmer got the stuff it was badly caked in the bag and hard to use. If you'd seen the bags of this material put out as fertilizer a few years ago, you'd understand why they were often referred to as "one hundred pound tombstones."

Obviously a farmer couldn't use the stuff in a fertilizer distributor or apply it by hand -- unless something was done to keep it from caking.

Well, to get on with the story, the fertilizer industry made use of a granulation process developed by the Department some years earlier. A process by which the material is made into pellets, almost as big as buckshot.

This was a good idea all right, but it didn't quite solve the problem. Sometimes moisture made the pellets stick together. Then the chemists went a step farther. They looked for ways to keep these pellets from taking on any moisture from the air, by wrapping each pellet in which you might call a water-resistant "rain coat."

Many different materials were tried for this coating, and one of the best turned out to be an organic water repellent, such as petrolatum-rosin-paraffin, called P-R-P. To prevent caking, an inert material such as clay was used to keep the granules separated. The TVA has also been working on this problem, and uses the P-R-P water repellent and a kaolin clay.

The next job was to find moisture-proof bags for this improved ammonium nitrate, so that when a farmer dumps it into his fertilizer distributor it won't clog things up. The better quality bags now on the market answer this requirement.

Of course after the ammonium nitrate reaches the farm it still has to be handled carefully, just as you'd handle any other fertilizer. Dr. Parker recommends storing it in a dry barn or shed, and away from anything that burns easily. If the floor is damp, build a platform six to twelve inches above the floor, and store the bags on that.

If you expect to store the fertilizer for any length of time, don't pile it up more than eight or ten bags high, because the higher the bags are piled, the more chance there is of caking.

But with proper care, farmers are not likely to have much trouble with the type of ammonium nitrate now on the market.

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AS THE LIGHTS GO ON

A transcribed talk by Claude R. Wickard, Administrator, Rural Electrification Administration, U. S. Department of Agriculture. Recorded November 23, 1945.
Time: 6 minutes 11 seconds without announcer's parts.

ANNOUNCER'S OPENING AND CLOSING

OPENING

ANNOUNCER (LIVE):

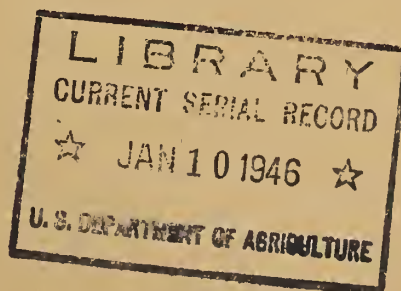
This is the time of the year when light has a special significance. Maybe we feel that way about it because we have our shortest days at this season of the year...and so appreciate light more. Millions of people who've lived under the blackouts of war have still greater reason to appreciate light now. Once again the windows of their homes blaze with light, and their cities glow fearlessly against the night sky. Yes...lights are going on again in many parts of the world...and soon, we hope, in the millions of homes still blacked out in rural America. To tell us something of how the lights in farm homes are going on, here, by transcription, from the Department of Agriculture in Washington is the Rural Electrification Administrator, Claude R. Wickard. Mr. Wickard.

CLOSING

ANNOUNCER (LIVE):

You've heard Claude R. Wickard, Rural Electrification Administrator of the U. S. Department of Agriculture, giving you a report on plans for speeding up the Government's program for bringing electricity to farm homes still without it.

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AS THE LIGHTS GO ON

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Time: 6 minutes 11 seconds without announcer's parts.

TRANSCRIPTION:

WICKARD:

The world is emerging from a long blackout. The lights are coming on again. Millions rejoice that in the coming year they will have their sons, husbands, brothers and friends back home, safe from the dangers of war. We of the REA are glad we may have a part in making the home-coming a little more pleasant for many of them. We take special pride in the fact that more than half a million rural homes have been connected to REA-financed power lines since we entered the war. The boys returning to these homes will find the contrasts even more pleasing than city people who had to endure only a few years of blackout. Millions of others will find in REA's post-war plans the promise of still brighter days to come.

Eleven years ago only one American farm in every ten had central station electric service. Today, we are nearing the half-way mark toward complete farm electrification. More than two million U. S. farms have been connected to rural power lines in less than 11 years. More than half of them are on REA lines.

The entire nation pays tribute to the job that America's farm families did during the war, in producing more food than ever before, and doing it with less manpower. One reason it was possible for so many farmers to increase their production during the war was that they had electricity as one of the modern tools of production to help do the farm work.

Electricity pumped water, milked cows, cooled milk; filled silos and performed many other chores which helped to feed this nation and our allies. The importance of electricity in supplementing the farm labor supply was recognized by the government agencies controlling wartime supplies, and the materials were made available so that farms could be connected to existing lines.

Now that the war is over, farmers over the nation are going ahead even more rapidly with their plans for getting electricity into their homes and barns. And of course REA is doing everything possible to help.

You know, of course, that it is the farm families themselves who set the wheels in motion to bring electricity to their communities. They do it by forming cooperative organizations. The Rural Electrification Administration aids them by lending money for the equipment, for lines, and other necessary purposes. We have 200 million dollars to lend during this fiscal year, and the applications from farmers cooperatives will take all this and more. Farm people don't need to be sold on the idea of electricity. They have seen how it can eliminate drudgery, increase efficiency of production, and provide more pleasant living. The REA sees even broader advantages in an expanded program of rural electrification, and is keeping these things in mind in developing its plans for the next few years.

Country schools, for instance, may be lighted with electricity, heated by electric stokers and equipped with motion picture projectors and other modern teaching devices. Rural hospitals, modern churches, refrigerated locker plants--all these and many other facilities can contribute to farm living as they do to town and city life.

Electricity can also supply an important part of the employment that must exist in rural areas in order to attract the young people of today--the war veteran and the returning war worker, for example. Employment on a huge scale would be a by-product of the post-war program REA proposes. Thousands of men would be employed in constructing distribution lines and even more in wiring homes and installing plumbing facilities. The manufacture, sale and servicing of electrical appliances would provide further job opportunities. More jobs will be created in rural industries that may be expected to develop once electric power becomes available.

In beginning an expanded electrification program, we regard two principles as basic:

First, we believe that the home-owned, locally-managed cooperative is the best instrument for carrying out the program, because it is operated for service and not for profit. An REA-financed cooperative, remember, is strictly private enterprise. It borrows money to build lines and repays the Government from operating revenue. Our borrowers have an impressive record of repayment to date. In addition to regular payments, they have repaid almost 20 million dollars before the money was due.

We look forward to the organization of many new cooperatives in the next year or two. We hope that farmers of every rural community that lacks the opportunity to be served with electricity will get in touch with us and let us help with their plans.

Second, we believe that when an electric system is established in a rural area, every farmer in the territory who wants electricity is entitled to it and should have it. We call this area coverage, and it is the guiding principle in our post war program.

Experience of the last 10 years has convinced us that present methods of electrifying rural areas are sound. Those years of experience have strengthened REA and made it ready for the job that lies ahead.

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